

National Land Use Planning Conference
March 4, 2009

Integrating Implementation and Planning Decisions in One Programmatic Document: *The Geothermal Leasing PEIS*

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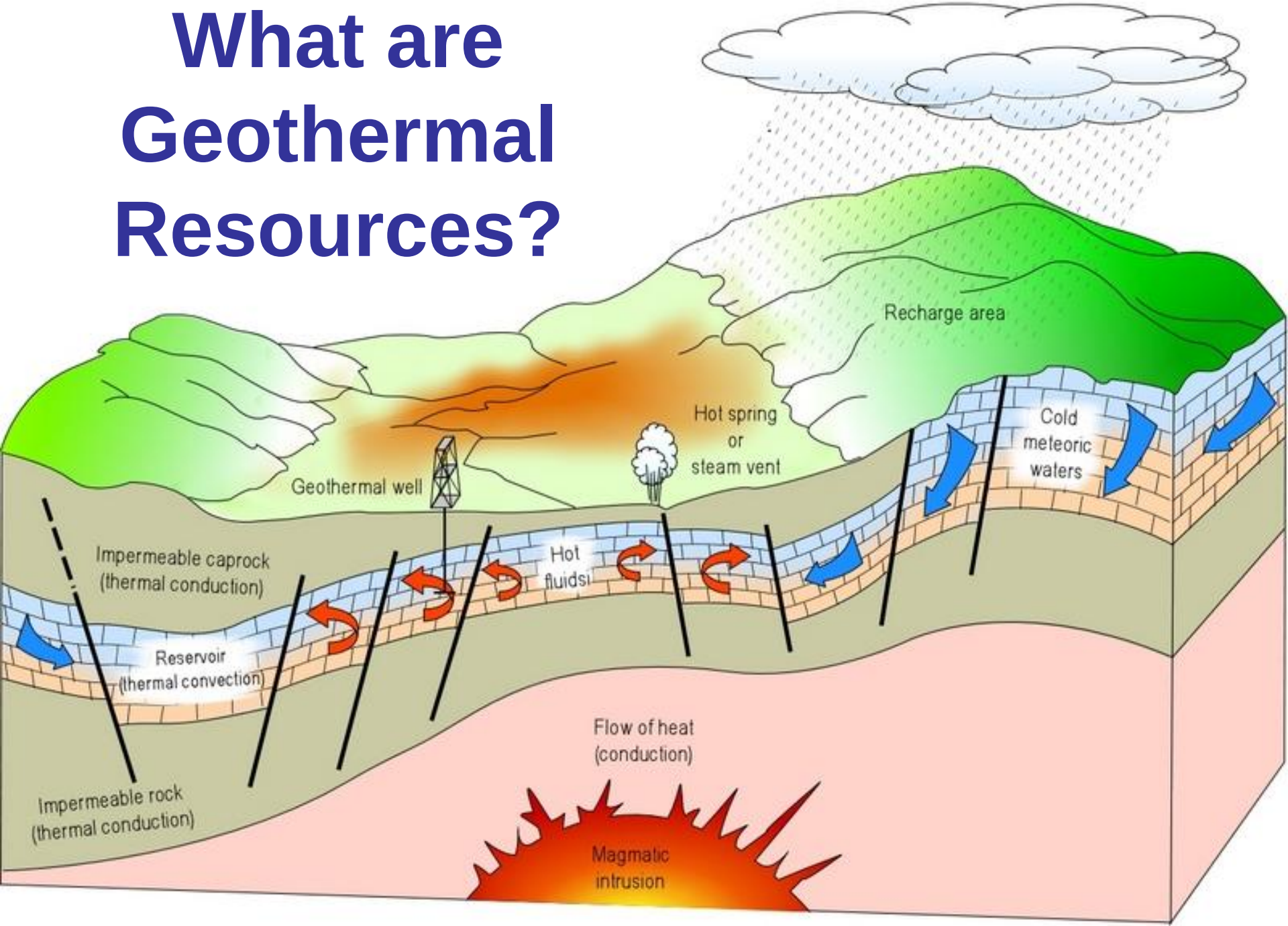
Presentation

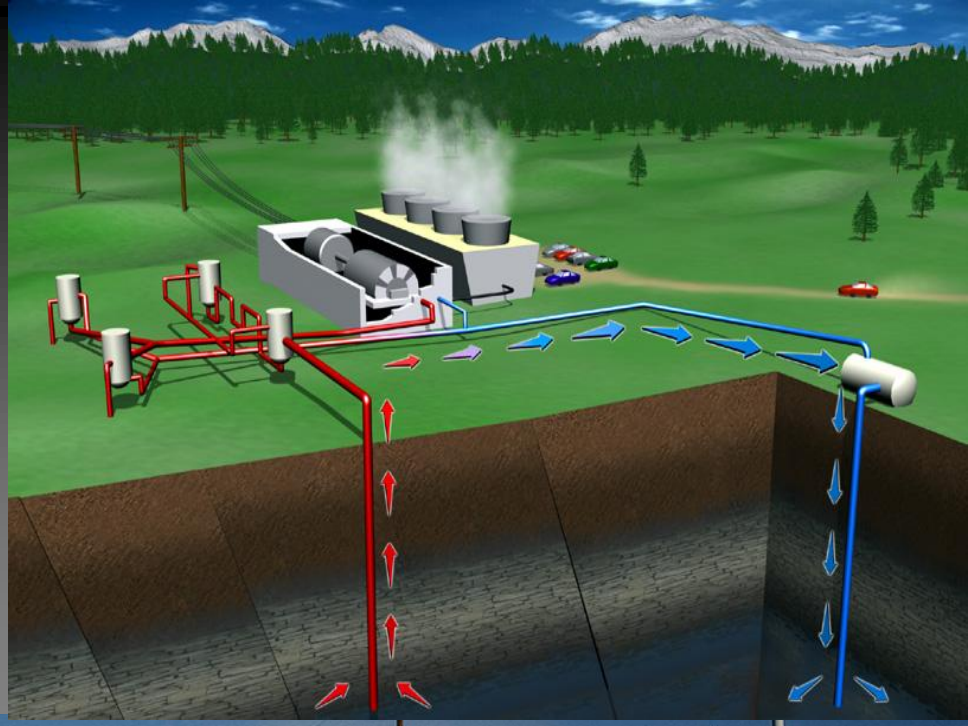
1. Overview: Geothermal Leasing PEIS
2. Combining implementation and planning in one document
3. Follow on workshops: April – June 2009
4. Expedited NEPA
5. BLM Perspective of the project

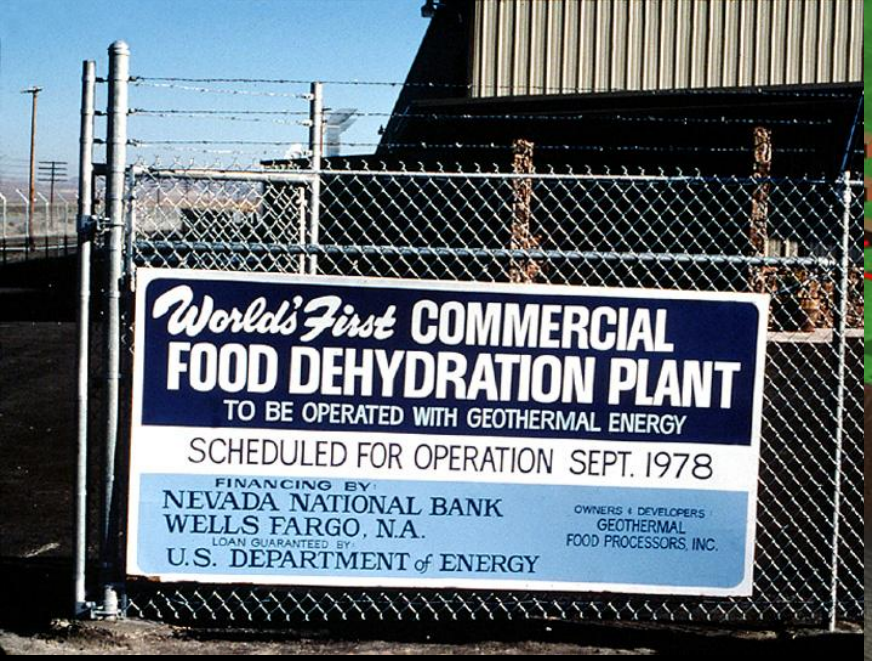
What are Geothermal Resources?

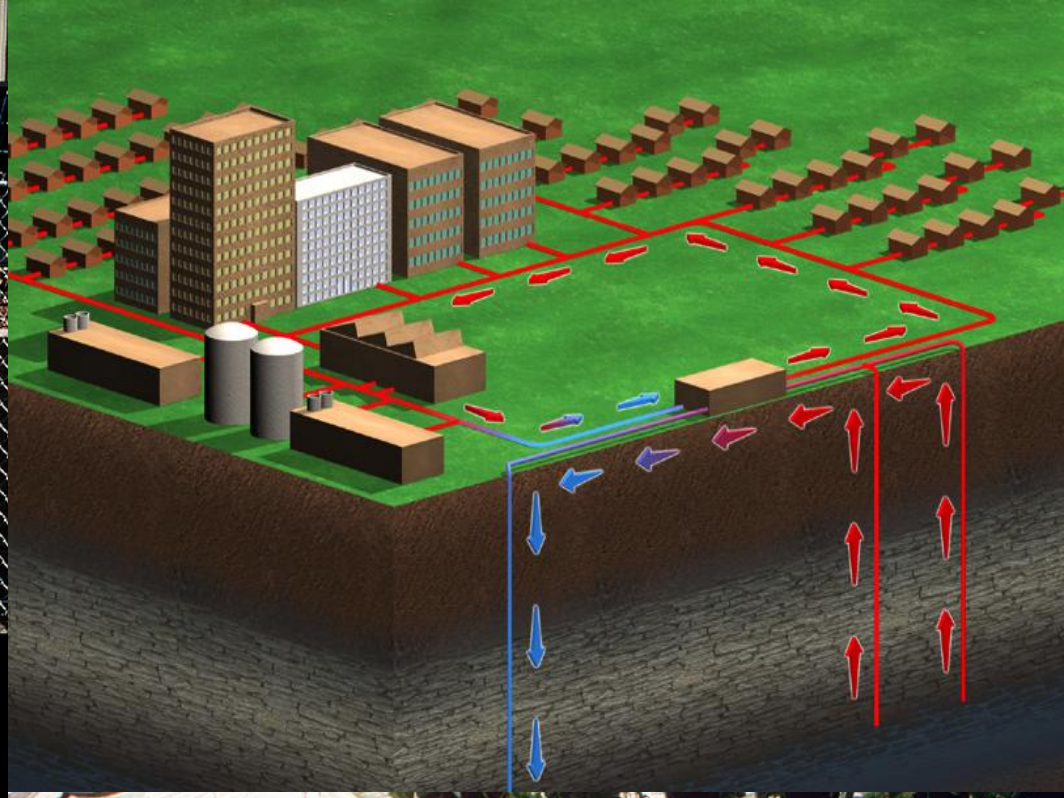


Electrical Generation (*indirect use*):

- 3,000 MW per year in US
- Supplies <1% of US energy demand
- Generally requires a hotter temperature resource




World's First COMMERCIAL
FOOD DEHYDRATION PLANT
TO BE OPERATED WITH GEOTHERMAL ENERGY
SCHEDULED FOR OPERATION SEPT. 1978
FINANCING BY:
NEVADA NATIONAL BANK
WELLS FARGO, N.A.
LOAN GUARANTEED BY:
U.S. DEPARTMENT of ENERGY
OWNERS & DEVELOPERS:
GEOTHERMAL
FOOD PROCESSORS, INC.



Direct Use

Four steps of geothermal development

1. Exploration
2. Drilling
3. Utilization and production
4. Reclamation and abandonment

A lease is need prior to conducting steps 2 -4

Geothermal Leasing PEIS

1. ROD signed December 2008
2. Scope: 12 Western States and over 142 million acres BLM public land
3. Expedited process: 18 months NOI to ROD
4. Amended over 122 land use plans
5. Assessed 19 lease applications

Why is federal action needed?

Respond to requirements of the Energy Policy Act 2005 & Executive Order 13212

1. Reduce 90% of backlogged leases that existed prior to Jan 1, 2005
2. Improve the effectiveness of geothermal leasing in the 12 Western US, including Alaska

Programmatic Analysis

- ✓ Identify and analyze the effects of public and NFS lands with geothermal potential as being opened or closed to leasing.
- ✓ Develop a comprehensive list of stipulations, BMPs and procedures to serve as consistent guidance for future geothermal leasing and development.
- ✓ Amend BLM land use plans to adopt land use allocations, stipulations, BMPs, and procedures.
- ✓ Provide analysis to facilitate consent determinations from the FS.

Scope:
RFD Scenario and Location

1. **Electrical Generation (indirect use)**
   - **3,000 MW in US**
   - **5,500 MW from 110 plants by 2015**
   - **An additional 6,600 MW from 132 plants by 2025**
2. **Direct Use**
   - **RFD: Over 270 communities near geothermal resources**

Collaborative Partners for Map

Federal Agencies

- Joel Renner, Idaho National Engineering and Environmental Laboratory (INEEL)
- Marshall Reid, US Geological Survey
- Colin Williams, US Geological Survey
- Joe Moore, Department of Energy / University of Utah
- Steve Fechner, US Forest Service

State Agencies

- State of Idaho
- State of Nevada
- Colorado Geologic Survey
- State of Montana, DEQ
- State of Utah Energy Program
- Alaska Energy Authority
- California: Energy Commission and Dept of Oil, Gas, and Geothermal

Non-Profit

- Renewable Alaska Energy Project

Research Institutes

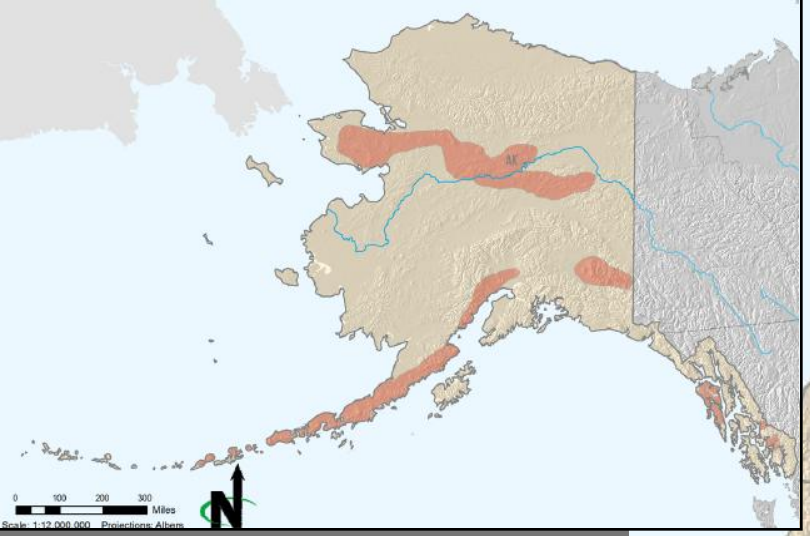
- Great Basin Center for Geothermal Energy, University of Nevada, Reno
- Oregon Institute of Technology, GeoHeat Center
- Energy and Geoscience Institute, University of Utah
- Intermountain West Geothermal Consortium
- David Blackwell, Southern Methodist University

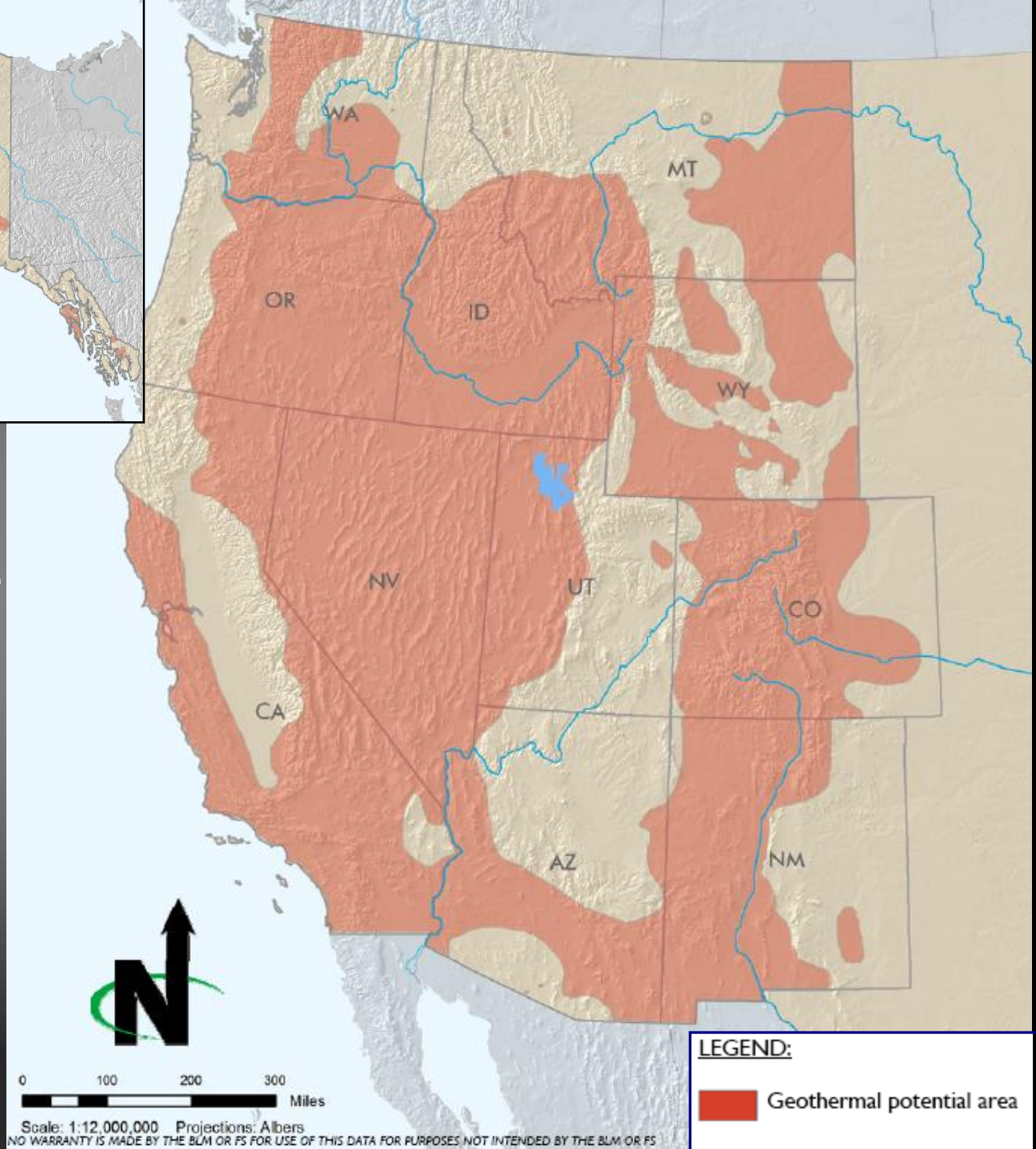
Private Industry

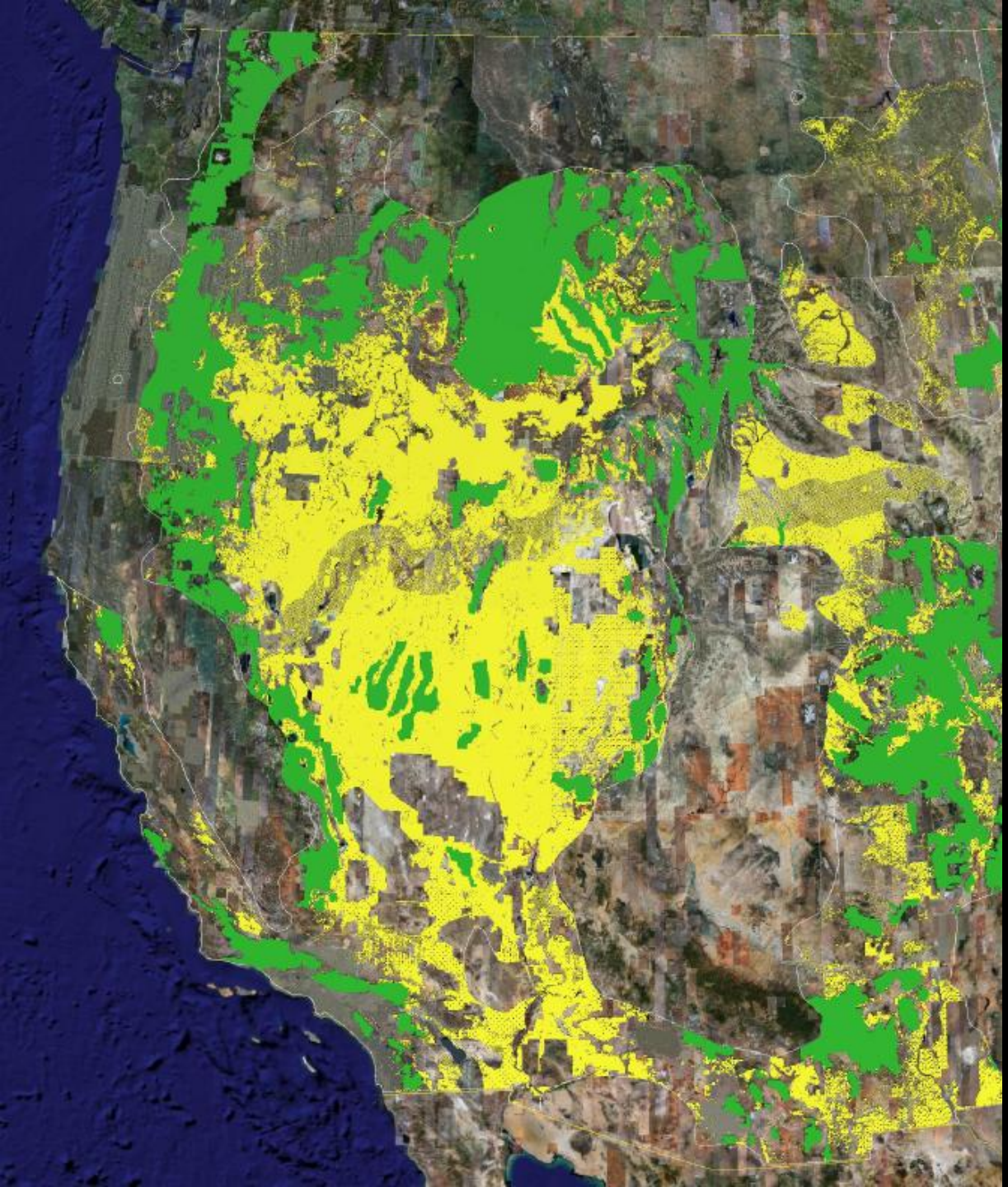
- Ormat Technologies, Inc.
- Iceland America Energy, Inc.
- Caithness Energy, LLC
- Enel North America, Inc.
- Calpine Corporation
- TG Power LLC

Planning Area

Geothermal Potential Area = 530M acres







Decision Area

248M Acres

BLM Public Land

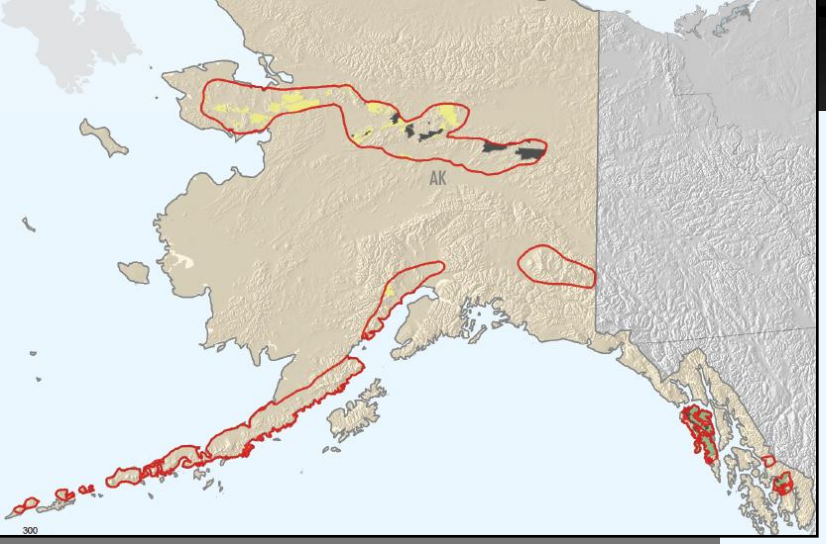
- 142M Acres
- Administered by 103 Field Offices

NFS Land

- 103M Acres = NFS Lands
- 68 Nat'l. Forests
- >250 Ranger Dists

Proposed Action

1. Identify and analyze the effects of public and NFS lands with geothermal potential as being opened or closed to leasing;
2. Develop a comprehensive list of stipulations, best management practices, and procedures to serve as consistent guidance for future geothermal leasing and development;
3. Amend BLM Resource Management Plans (RMPs) to adopt the land use allocations and list of stipulations, BMPs, and procedures; and



Proposed Action

Open to Leasing (77%)

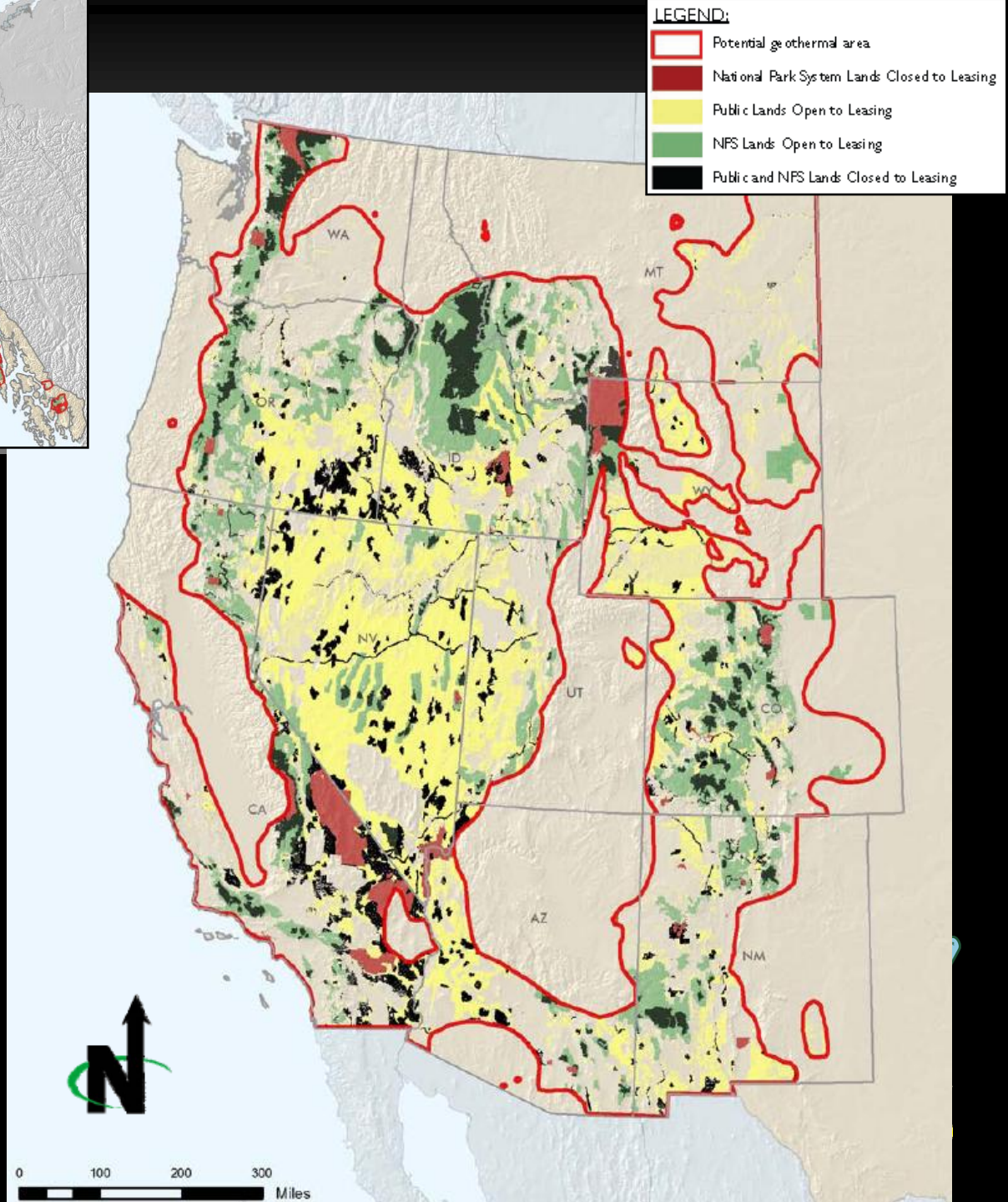
BLM: 118M acres

NFS: 79M acres

Closed to Leasing

BLM: 25M acres

NFS: 24M acres



Stipulations and BMPs

- Stipulations
  - Stipulations developed from review of land use plans and from existing geothermal and oil and gas stipulations
  - Types: No Surface Occupancy (NSO) / Controlled Surface Use (CSU) / Timing Limitations (TL) / resource specific
  - Applied only if no other protection measures are available

Stipulations and BMPs

- BMPs
  - Developed from comprehensive review of LUP and from existing geothermal and oil and gas guidance
  - Provided BMPs for all four phases of geothermal development (exploration, drilling, utilization, and reclamation)
  - Applied as part of permits for post leasing development

Pending Lease Applications

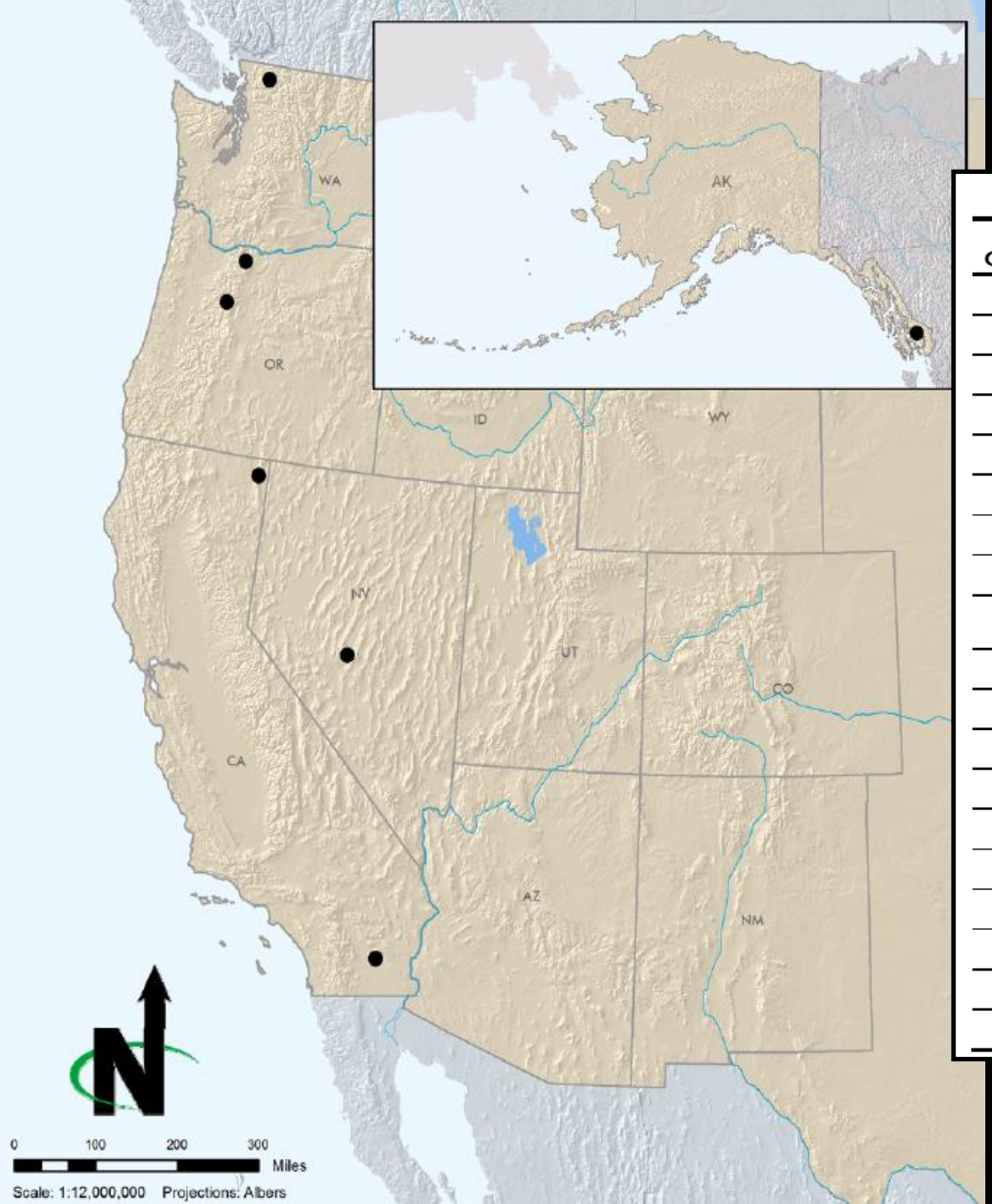
submitted prior to 1/1/05

As of Jan. 1, 2005: 194 lease applications

- 134 BLM and 60 FS

Rigorous vetting process of pending lease applications

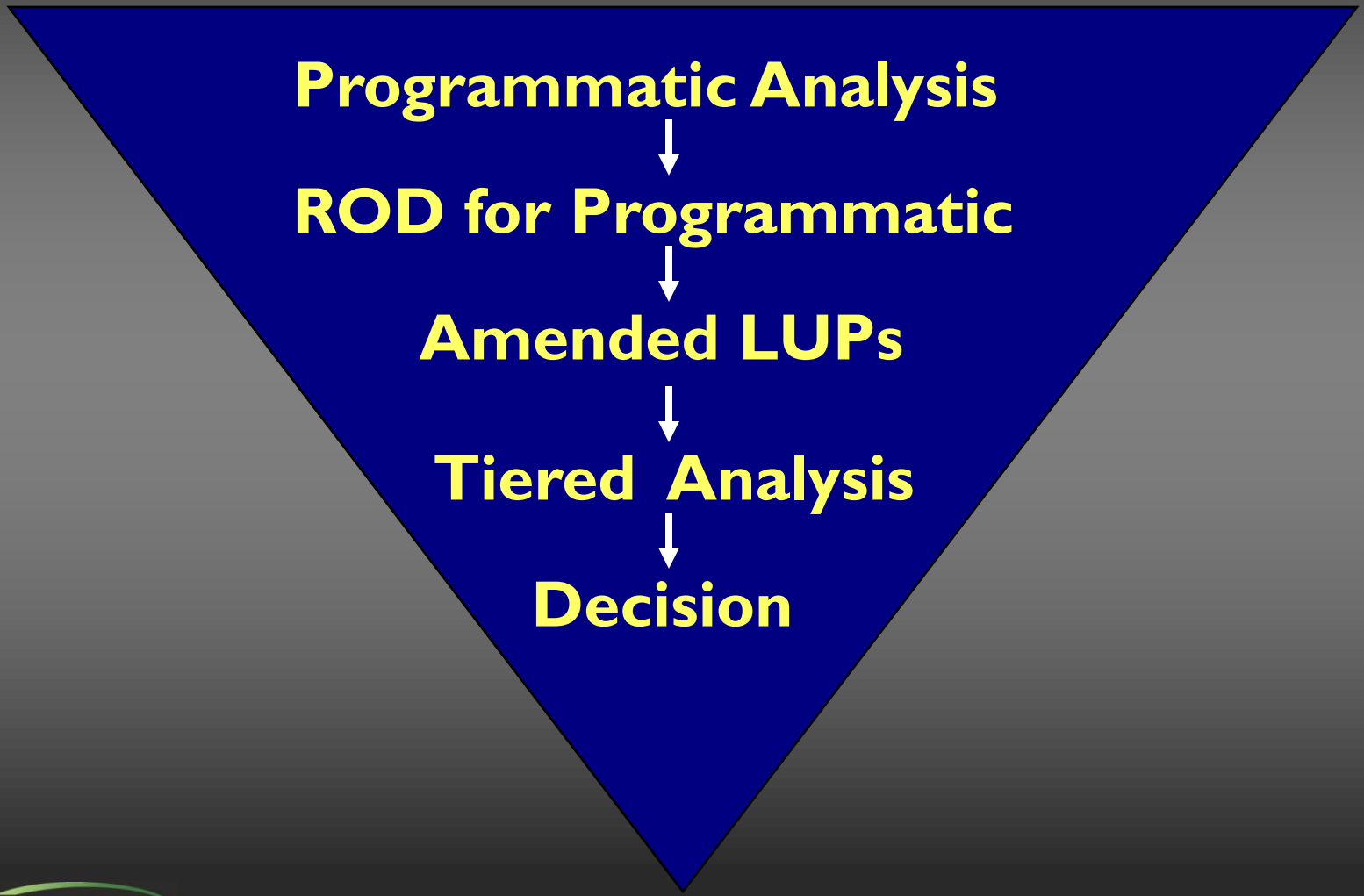
- As of June 5, 2008: 34 still pending
  - 19 pending applications in 7 groups are assessed in the PEIS (1 BLM and 18 FS)
  - 15 pending applications are being handled in separate decision processes by BLM and FS office



Pending Lease Applications (Prior to January 1, 2005)

Group	State	BLM or FS Office	Serial Number	Acres
1	AK	Tongass NF	AKAA 084543	2560
1	AK	Tongass NF	AKAA 084544	2560
1	AK	Tongass NF	AKAA 084545	2560
2	CA	El Centro FO	CACA 046142	2161
2	CA	El Centro FO	CACA 043965	1160
3	CA	Modoc NF	CACA 042989	480
3	CA	Modoc NF	CACA 043744	2560
3	CA	Modoc NF	CACA 043745	2560
4	NV	Battle Mtn FO and Toiyabe NF	NVN 074289	605
5	OR	Mount Hood NF	OROR 017049	1538
5	OR	Mount Hood NF	OROR 017051	2480
5	OR	Mount Hood NF	OROR 017052	2480
5	OR	Mount Hood NF	OROR 017053	1376
5	OR	Mount Hood NF	OROR 017327	1294
6	OR	Willamette NF	OROR 054587	1115
7	WA	Mt Baker NF	WAOR 056025	2403
7	WA	Mt Baker NF	WAOR 056027	2560
7	WA	Mt Baker NF	WAOR 056028	2544
7	WA	Mt Baker NF	WAOR 056029	1941

Approach for integrating implementation actions



Tiering

Tiering refers to the coverage of general matters in broader environmental impact sates (such as national program or policy statements) with subsequent narrower statements or environmental analysis….” (42 CFR 1508.28)

Agencies are encouraged to tier their environmental impact statements to eliminate repetitive discussions of the same issues and to focus on the actual issues ripe for decision at each level of environmental review (42 CFR 1502.20)

Tiered Analysis in the PEIS

- Volume II of the PEIS contains supplemental environmental analysis of the 19 lease areas
- BLM and FS will issue separate RODs for each lease cluster
- Serves as a template for future tiering analysis to the PEIS

Benefits of Geothermal PEIS

- Issue decisions on pending lease applications
- Enable future leasing decisions to be made on public lands
- Ensure consistency and transparency in the leasing process
- Minimize delays
- Reduce costs

Benefits of Geothermal PEIS

Winner - Achievement Award

Energy and Infrastructure

Environmental Business Journal 2008

Finalist

Sustainable Energy Initiative of the Year

Platts Global Energy Awards 2008

Implementation Workshops

April 7 – Grand Junction, CO

April 14 – Cheyenne, WY

April 16 – Helena, MT

April 23 – Bend, OR

April 28 – Boise, ID

May 6 – Reno, NV

May 12 – Cedar City, UT

May 19 – El Centro, CA

May 21 – Phoenix, AZ

May 28 – Las Cruces, NM

June 2 – Anchorage, AK

Preliminary dates and locations

NEPA Scheduling
EMPSi Survey Findings

- About 550 Draft and Final EISs are filed with EPA each year
- Takes between 18 to 48 months to complete EIS process
- BLM average is about 1,400 days
- Factors outside NEPA generally result in the delays

Batts, D. and J. King. 2004. Tools to Overcome Schedule Delays. Presented at the National Association of Environmental Professionals 29th Annual Conference. Portland, OR.
EMPSi. 2006. Modifications and Attitudes on Recent Changes in Federal Laws to Expedite NEPA Compliance—Opportunities for Improvement?
EMPSi. 2007. Time to Prepare NEPA Documents: A Comprehensive Review of EISs. Prepared by John King, Kate Wynant, David Batts, Leslie Bandy, and Mary Holkenbrink. Presented at the National Association of Environmental Professionals 32nd Annual Conference. Orlando, FL.

BLM Perspective
NOI to ROD in 18 Months:

Managing Complex Projects & Staying on Schedule

- Assess dimensions of the challenge and time elements
- Anticipate pitfalls
- Develop a comprehensive project plan and SOW
- Hire the right contractor
- Build redundancy in your team
- Create & maintain solid relationships with partners

NOI to ROD in 18 Months:

Managing Complex Projects & Staying on Schedule

- Keep public informed throughout process
- Consider the use of “strike teams”
- Maintain leadership support and ownership of project
- Identify a “project manager” for the effort
- Be flexible, adaptable and creative
- Don’t move the goal line!

For More Information

www.blm.gov/geothermal_eis

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